

ROD-TYPE EXPULSION CAPSULE

This invention relates to a rod-type expulsion capsule for solid or pasty materials as well as for liquid containers, said capsule comprising a tubular capsule element for receiving the material or the liquid container, a rotating part and a slide supported for displacement within said rotating part, movable in the longitudinal direction of said capsule element by means of said rotating part and connected to the material or the liquid container, and comprising a closing cap, by means of which an opening of said capsule element can be closed.

Expulsion capsules of this kind are known from prior art and serve for storing and providing pasty materials like lip care products, lip colouring materials or lip balms. In addition, such expulsion capsules serve for storing and providing adhesive materials. To this end, said pre-known expulsion capsules consist of a tubular capsule element for receiving the material that is arranged above a slide which is guided for axial displacement within said capsule element. The slide is directly or indirectly connected to a rotating part which is arranged on the capsule element for at least a limited rotation relative to said capsule element. For example, the slide may be connected to the rotating part through a toothed rack which partly penetrates the material. Alternatively, the slide may have two diametrically opposite projections which are guided in inclined guide gates of an element arranged inside the capsule element. In this embodiment, the slide is guided along the guide gate and moved in the axial direction of the capsule element by a rotary movement of the rotating element, in order to expell the material in the region of an open end of the capsule element and to provide the material for its destined use.

Usually, the open end of the capsule element can be closed with a closing cap.

Such an expulsion capsule is known for example from the document DE 89 05 482 U1. Expulsion capsules of this kind have proven worthwhile for stiff, pasty materi-

als, particularly those intended for lip care. However, corresponding articles are used to an increasing extent in the advertising business in the form of advertising means, where the closing cap and/or the capsule element have printed thereon advertising messages and/or company information like addresses, brand names or the like. But the printing work is time-consuming and expensive, especially in cases where the expulsion capsules have a round cross-section, which stands in the way of the required cost structuring for this kind of advertising media.

Starting from this prior art, the invention is based on the p r o b l e m of providing a rod-type expulsion capsule which can be adapted, in a simple and economical manner, to a plurality of customer requirements regarding the design and arrangement of advertising messages and other information and which especially allows that elements which increase the promotion effect are varied in a diversity of ways.

The s o l u t i o n of the problem provides that in an expulsion capsule of the above-mentioned type an application element is arranged on the rotating part and/or the closing cap and is firmly connected to the rotating part and/or the closing cap, especially by glueing or locking.

The construction of the expulsion capsule according to the invention has the important advantage that, depending on its design, the application element serves for receiving an advertising message or other data and at the same time increases the value because of resulting other possibilities of use which considerably increase the advertising value and thus the related recognition factor, especially in the domain of advertising media. To this end, the supplementary application element is arranged on the rotating part and/or the closing cap and is firmly connected to these components, for example by glueing and/or locking, so that both positive and non-positive connections are possible. In addition, it is possible to ferromagnetically fix the application element to the closing cap and/or the rotating part, provided that the corresponding parts are designed with ferromagnetic prop-

erties. An advantage of this detachable connection resides in that the application element(s) after emptying the expulsion capsule may be reused and accordingly mounted to another expulsion capsule.

According to a further feature of the invention it is provided that the application element is arranged on the rotating part and/or the closing cap on the front sides thereof. Arranging the application element in this area is advantageous in so far as this area is normally formed flat and therefore allows for example that the two parts are glued together in a simple way, as the glueing operation can be done by machines.

For exactly positioning the application element on the rotating part and/or the closing cap it is provided that the rotating part and/or the closing cap have a receiving construction, wherein the application element is arranged and fixed, especially in a positive and/or non-positive fashion. Provided that the positive connection is sufficiently strong, this embodiment does not require any glueing operation.

Preferably, the rotating part has a rotary element which can be locked to the closing cap, with the application element being arranged on the rotary element. In this embodiment the rotary element and the closing cap form an outer packing having a smooth surface, which results in a pleasing and thus promotionally effective design of the expulsion capsule.

To be able to apply additional advertising or information, it is provided that the application element includes a presentation area for receiving characters, numbers and/or pictorial representations.

To protect the presentation area, a further feature of the invention provides that the presentation area has a convexly formed acrylic lens. This acrylic lens covers the presentation area and has the advantage that it may be designed in the form

of a magnifying lens for displaying the advertisement and/or information on the presentation area in an enlarged fashion.

In a further embodiment of the invention it is provided that the application element includes an eyelet for fixing a band, a chain or the like. In this embodiment it is possible to wear the expulsion capsule as a necklace and/or a bracelet, which fact further enhances the promotionally effective use of the expulsion capsule. In this case, the band and/or the chain are fixed to an eyelet which is fixed to the closing cap or to the rotating part or the rotary element either as the application element or together with the application element.

To avoid the loss of one of the components of the expulsion capsule, namely the closing cap on one side and the rotating part with the capsule element affixed to it on the other side, it turned out to be advantageous for the application element to be formed in two parts, respectively fixed to the front ends of the rotating part and the closing cap. Both parts of the application element may be connected to one end of the band or the chain, whereby it is possible to open the band and/or the chain in the region of the expulsion capsule. If both parts of the application element are additionally interconnected through the band and/or the chain, of which the lengths are dimensioned so that the closing cap may be pulled off the expulsion capsule, losing one of the parts of the expulsion capsule will be almost completely impossible.

A further embodiment of the expulsion capsule according to the invention provides that the application element is formed as a clip element and is fixed to the closing cap, with the clip element including a portion that is, at least within the region of its free end, applied against the outer surface area of the closing cap and is formed to be resilient. Formed in this way, the expulsion capsule may be fixed to pockets of garments, like ballpoint pens or fountain pens. Having a further presentation area, the clip element serves for the additional placement of advertisement and/or information.

According to a further feature of the invention it is provided that the application element is formed as a container, especially as a container for food articles like chewing gum or the like, tablets or pills.

A further embodiment provides that the application element includes a time measuring installation in an analogous or digital form.

Moreover, the possibility exists for the application element to have a rough surface that can be used for manicure and/or pedicure purposes.

A further embodiment provides that the application element is formed as a lighter.

To obtain a simplified and positionally accurate mounting of the application element it is provided that the application element carries a first part of a slip-on orientation and that the closing cap and/or the rotating part carry a second part of the slip-on orientation. Such a slip-on orientation may comprise for example at least two and preferably three pins of a different diameter in the region of the application element and corresponding bores in the region of the closing cap and/or the rotating part. Of course, also a different arrangement of this structural elements is possible.

In an embodiment of the invention having a liquid container which, for easier and better handling, may be expelled from the capsule element by means of the slide, it is provided that the liquid container includes an atomizer.

The application element may be arranged on an application element carrier which in turn may be detachably connected to two or more expulsion capsules. This embodiment for example has the advantage that two expulsion capsules, each of which containing different materials like lip care materials of a different taste and/or medical effect, may be combined in a simple way. Of course, this possibility also exists in the case of a direct connection of the expulsion capsules through the

application element, without the use of an additional application element carrier. At the use of two or more expulsion capsules it turned out to be advantageous to connect the same in a form-fit fashion to the application element or the application element carrier. To this end, there may be provided for example bores in the closing cap or the rotating part and pins registering with the bores on the application element or the application element carrier, which pins may be frictionally engaged within the bores. The application element is preferably glued together with the application element carrier, in order to keep the manufacturing cost low. However, a form-fit connection between the application element carrier and the application element is also possible and may be conceived as a means used in addition to glueing.

Finally, according to a further feature of the invention it is provided that the application element as well as at least the region in which the application element is arranged have ferromagnetic properties. This design not only allows the magnetic fixing of the application element to the rotating part or the closing cap but also the fixing of the expulsion capsule to a metal surface, for example in a vehicle.

Further features and advantages of the invention will become apparent from the following description of the attached drawing representing preferred embodiments of the invention. In the drawing it shown by:

Figure 1 a pin-type expulsion capsule in a partly sectional side view;

Figure 2 the expulsion capsule according to figure 1 in a horizontal projection, taken along line II-II in figure 1;

Figure 3 an upper portion of the expulsion capsule according to figure 1 in a further embodiment, in a partly sectional side view;

Figure 4 the expulsion capsule according to figure 3 in a horizontal projection;

- Figure 5 an application element for an arrangement on the expulsion capsule according to the figures 1 to 4, in a perspective view;
- Figure 6 an alternative embodiment of an application element for mounting to the expulsion capsule according to the figures 1 to 4, in a perspective view;
- Figure 7 a further example of execution of a rod-type expulsion capsule, in a perspective view;
- Figure 8 a further embodiment of an application element for an arrangement on the expulsion capsule according to the figures 1 to 4 and 7, in a perspective view;
- Figure 9 a further embodiment of an application element for mounting to the expulsion capsule according to the figures 1 to 4 and 7, in a perspective view; and
- Figure 10 a capsule part for the insertion in an expulsion capsule according to the figures 1 to 4 and 7, in a partly sectional perspective view.

A rod-type expulsion capsule as represented in figure 1 consists of a tubular capsule element 1 for receiving a solid or pasty material or a liquid container 2 (compare figure 10). Within said capsule element 1 there is arranged a slide 3 for displacement in the axial direction of the capsule element 1, and the slide 3 can be displaced within said capsule element 1 by means of a rotating part 4 via a guide gate (not further shown) and through projections provided on the slide 3.

A closing cap 5 that receives the entire capsule element 1 and a shoulder 6 of the rotating part 4 may be slipped on the capsule element 1. To this end, said shoul-

der 6 includes point projections which are not further shown and which may be locked behind an edge of said closing cap 5. The rotating part 4 and the capsule part 1 may be formed in one or in two parts.

On its outer surface area said rotating part 4 has a surface which increases the coefficient of friction, for example in the form of projections 7.

On the end of the closing cap 5 opposing the rotating part 4 said closing cap 5 includes a recess 8 in which an application element 9 may be inserted. Said application element may be locked in or pasted together with said recess 8.

In the embodiment according to figure 1 said application element 9 is comprised of a presentation area 10 for receiving information and/or advertisement and of an acrylic lens 11 arranged above said presentation area, which lens is formed in a convex shape and covers all of the presentation area 10, wherein said acrylic lens 11 terminates flush with the outer surface area of the closing cap 5 and has a curvature radius which is the same in each surface point.

The application element 9 includes on its surface facing the closing cap 5 pin-type projections 12 (compare figure 5) which engage in corresponding bores 13 within the region of the recess 8 of the closing cap 5. On one side said bores 13 serve for locking the application element 9 and on the other side they have different diameters, so that a particular orientation of the application element 9 with respect to the closing cap 9 may be predetermined in this way, in order to bring an advertising message arranged on the outer surface area of the closing cap 5 in registration with an advertising message on the application element 9.

Figure 3 shows an alternative design of the upper portion of the closing cap 5, wherein the application element 9 as a whole, i.e. the presentation area 10 and also the acrylic lens 11, is arranged within the recess 8 of the closing cap 5. In its upper region said closing cap 5 has a continuous rim 14 having arranged on the

inner side 15 thereof wart-like projections 16 which are distributed over the circumference of said inner side 15 with equal spacings to each other. In the case of an arrangement of preferably three wart-like projections 16 there accordingly is an angle of 120° between the individual projections 16.

Configured in this way, an application element 9 according to the figures 3 and 4 may be locked in the recess 8 in a simple way and with sufficient flexibility.

Figure 6 shows an alternative design of an application element 9 which is formed in a plate shape and accordingly has a disc 17 that is made of a plastic material for example and may be inserted in a recess 8 of the closing cap 5. On its surface which is visible in the inserted condition of the disc said disc 17 has a presentation area 10. Moreover, in this region an eyelet 18 is arranged which serves for receiving a band 19 or an equivalent chain, so that it is possible to wear the expulsion capsule connected to the application element 9 in the form of a necklace. Preferably, said eyelet 18 is arranged centrally in the region of the disc 17 and is fixed in a bore which is provided there and which is not further shown, for example by glueing. However, form-fit connections between the eyelet 18 and the disc 17, which allow for example a relative movement in the form of a rotational movement of the disc 17 relative to the eyelet 18, are also possible.

In figure 7 an embodiment of an expulsion capsule is shown having on the two ends thereof an application element 9 according to figure 6. To this end, the rotating part 4 of the expulsion capsule is also formed with a recess which serves for receiving the application element 9.

Both eyelets 18 that are provided on the end portions of the expulsion capsule are interconnected through a band 19, so that the loss of one part of the expulsion capsule after the removal of the capsule element 1 from the closing cap 5 is prevented. To this end, the band 19 may be rigidly connected to each eyelet 18 or may be guided for a sliding movement within said eyelets 18.

Additionally, a clip element 20 can be seen in the figure 7, which clip is fixed to the upper application element 9, i.e. to the application element 9 that is arranged within the recess 8 of the closing cap 5. This clip element is comprised of a U-shaped metal stirrup, of which the legs are formed with different lengths, the longer one, 21, of said legs being resilient and having a projection 22 on the free end thereof, which projection is applied against the outer surface area of the closing cap 5. The second leg 23 of said clip element 20 is connected to the application element 9. Such a clip element serves for fixing the expulsion capsule in the form of a writing instrument within the pocket region of a garment.

Alternative designs of application elements 9 are shown in the figures 8 and 9. Figure 8 shows an application element 9 which is formed in a can shape and accordingly surrounds a hollow space 24. Said hollow space may be accessed through an opening 25 provided within the region of the presentation area, and said opening 25 may be closed by means of a slide 26. This application element 9 may be used for example as a storage box for pills or the like.

In figure 9 there is shown an application element 9 which consists of a supporting plate 27 and a dome 28 arranged thereon, which dome has a surface 29 with a high coefficient of friction which makes it possible for this surface to be used for manicure and pedicure purposes and also as a tool. As an alternative, there may be of course arranged also an eraser or the like.

Finally, figure 10 shows the configuration of a liquid container 2 which is arranged within the capsule element above the slide 3. In addition, a projection 30 may be seen in figure 10, by means of which the slide 3 is guided in a guide gate (not further shown) of the capsule element 1. A second projection 30 is arranged diametrically opposite to the first projection 30 on the slide 3.

The liquid container 2 consists of an outer wall 31, of which the outer surface area lies against the inner surface area 32 of the capsule element 1. Said liquid con-

tainer 2 further includes a bottom plate (not further shown) and a lid 33 which is penetrated by an atomizer 34, in order to allow a liquid 35 arranged in said liquid container 2 to be withdrawn preferably in adequate doses.

By the liquid container 2 being displaceable within the expulsion capsule 1 it is made sure that slipping the closing cap 5 on the capsule element 1 will not lead to the atomizer 34 being actuated.

The invention described above is not limited to the embodiments as shown. Instead, further forms of construction and variations of the application elements 9 are possible, without departing from the scope of the invention.